IN THE CLAIMS:

Please **AMEND** claims 1, 4, 5, 6, 8, 15, 19, 24, 27, 28, 30, 32, 34, and 35 in accordance with the following:

1. (currently amended) A positive active material composition for a positive electrode of a lithium-sulfur battery comprising:

a positive active material comprising a sulfur-based compound;

a conductive agent;

an organic mixing solvent comprising isopropyl alcohol, wherein the organic mixing solvent is non-aqueous and has a solubility of sulfur equal to or less than 50 mM; and

a binder comprising polyvinyl pyrrolidone, which is dissolvable in the organic mixing solvent that comprises isopropyl alcohol, ~~,~~ wherein an amount of the binder is at least five percent by weight with respect to the positive active material composition.

2-3. (cancelled)

4. (currently amended) The positive active material composition of claim 1, wherein the binder further comprises at least an oxide polymer selected from the group consisting of polyethylene oxide and polypropylene oxide.

5. (currently amended) The positive active material composition of claim 1, wherein:

the binder further comprises ~~the at least one polymer selected is~~ at least one first polymer selected from the group consisting of polyvinylidene fluoride~~,~~ and polyvinyl acetate ~~and polyvinyl pyrrolidone~~;

the organic mixing solvent is a first organic mixing solvent which dissolves the first polymer and ~~is~~ further comprises an organic solvent selected from the group consisting of dimethylformamide~~, isopropyl alcohol~~ and acetonitrile;

the positive active material composition further comprises:

at least one oxide polymer selected from the group consisting of polyethylene oxide and polypropylene oxide; and

a second organic mixing solvent which dissolves the oxide polymer and is selected from the group consisting of 1,3-dioxolane and acetonitrile.

6. (currently amended) The positive active material composition of claim 1, wherein

the binder ~~is~~ further comprises polyvinylidene fluoride, and the organic mixing solvent ~~is~~ further comprises dimethyl formamide.

7. (cancelled)

8. (currently amended) The positive active material composition of claim 1, wherein the binder ~~is~~ further comprises polyvinylacetate and the organic mixing solvent ~~is~~ further comprises acetonitrile.

9. (previously presented) The positive active material composition of claim 1, wherein the sulfur-based compound is at least one compound selected from the group consisting of elemental (S_8), solid Li_2S_n ($n \geq 1$), an organic-sulfur compound and a carbon sulfur polymer $(C_2S_x.)_n$, where x=2.5 to 50, and n is an integer ≥2 .

10. (original) The positive active material composition of claim 1, wherein the positive active material composition comprises 5 to 30 percent by weight of the binder.

11. (original) The positive active material composition of claim 1, wherein the organic mixing solvent has a solubility of sulfur of 1 to 50 mM.

12. (cancelled)

13. (original) The positive active material composition of claim 5, wherein a mixing ratio between the binder and the at least one oxide polymer is 1 to 9:9 to 1 in weight ratio.

14. (original) The positive active material composition of claim 1, wherein the conductive agent is a at least one conductive carbon material selected from the group consisting of graphite, carbon black, polyaniline, polythiopene, and polypyrrol.

15. (currently amended) A lithium-sulfur battery comprising:

a positive active material including a sulfur-based compound, a binder and a conductive agent, the binder comprising polyvinyl pyrrolidone dissolved in an organic mixing solvent, wherein the organic mixing solvent comprises is propyl alcohol, wherein the organic mixing solvent is non- aqueous and has a solubility of sulfur equal to or less than 50 mM, and

wherein an amount of the binder is at least five percent by weight with respect to the positive active material composition;

a negative electrode comprising a negative active material, the negative active material being selected from the group consisting of materials in which lithium intercalation reversibly occurs, materials which react with lithium to form a lithium compound, a lithium metal and a lithium alloy; and

an electrolyte comprising a lithium salt and an electrolyte-organic solvent.

16. (cancelled)

17. (original) The lithium-sulfur battery of claim 15, wherein the binder further comprises at least oxide polymer selected from the group consisting of polyethylene oxide and polypropylene oxide.

18. (previously presented) The lithium-sulfur battery of claim 15, wherein the sulfur compound is at least one compound selected from the group consisting of elemental (S_8), solid Li_2S_n ($n \geq 1$), an organosulfur compound and a carbon sulfur polymer $(C_2S_x.)_n$, where x=2.5 to 50, and n is an integer ≥2 .

19. (currently amended) The lithium-sulfur of claim 15, wherein the electrolyte-organic solvent ~~is~~ further comprises an organic solvent selected from the group consisting of benzene, fluorobenzene, toluene, trifluorotoluene, xylene, cyclehexane, tetrahydrofuran, 2-methyl tetrahydrofuran, cyclohexanone, ethanol, isopropyl alcohol, dimethyl carbonate, ethylmethyl carbonate, diethyl carbonate, methylpropyl carbonate, methyl propionate, ethyl propionate, methyl acetate, ethyl acetate, propyl acetate, dimethoxy ethane, 1,3-dioxolane, diglyme, tetraglyme, ethylene carbonate, propylene carbonate, γ-butyrolactone and sulfolane.

20. (original) The lithium-sulfur battery of claim 15, wherein the lithium salt is at least one compound selected from the group consisting of lithium hexafluorophosphate ($LiPF_6$), lithium tetrafluoroborate ($LiBF_4$), lithium hexafluoroarsenate ($LiAsF_6$), lithium perchlorate ($LiClO_4$), lithium trifluoromethanesulfonate (CF_3SO_3Li) and lithium bis(trifluoromethyl) sulfoneimide($LiN(SO_2CF_3)_2$).

21. (previously presented) The lithium-sulfur battery of claim 15, wherein the

electrolyte comprises a concentration of 0.5 to 2.0 M of the lithium salt.

22. (previously presented) The lithium-sulfur battery of claim 11, wherein the organic mixing solvent has a solubility of sulfur of 1 to 50 mM.

23. (cancelled)

24. (currently amended) A positive active material composition for a positive electrode of a lithium-sulfur battery comprising:

a positive active material comprising a sulfur-based compound;

a conductive agent;

an organic mixing solvent comprising isopropyl alcohol, wherein the organic mixing solvent is non-aqueous and has a solubility of sulfur equal to or less than 50 mM; and

a binder comprising polyvinyl pyrrolidone,wherein an amount of the binder is at least five percent by weight with respect to the positive active material composition.

25. (original) The positive active material composition of claim 24, wherein the binder further comprises at least oxide polymer selected from the group consisting of polyethylene oxide and polypropylene oxide, and the organic solvent further comprises 1,3-dioxolane.

26. (original) The positive active material composition of claim 24, wherein the positive active material composition comprises 5 to 30 percent by weight of the binder.

27. (currently amended) A positive active material composition for a positive electrode of a lithium-sulfur battery comprising:

a positive active material comprising a sulfur-based compound;

a conductive agent;

an organic mixing solvent comprising isopropyl alcohol, wherein the organic mixing solvent is non-aqueous and has a solubility of sulfur equal to or less than 50 mM; and

a binder comprising polyvinyl pyrrolidone, wherein an amount of the binder is at least five percent by weight with respect to the positive active material composition.

28. (currently amended) A method of preparing a positive electrode for a lithium-sulfur battery comprising:

dissolving a binder comprising polyvinyl pyrrolidone in an organic mixing solvent comprising isopropyl alcohol wherein the organic mixing solvent is non-aqueous and has a solubility of sulfur equal to or less than 50 mM, to obtain a first mixture, and an amount of the binder is at least five percent by weight with respect to a positive active material comprising a sulfur-based compound;

dispersing a conductive agent into the first mixture to obtain a dispersion solution;

homogeneously dispersing the positive active material in the dispersion solution, to prepare a positive electrode composition; and

coating the positive electrode composition to a current collector and drying the coated current collector.

29. (cancelled)

30. (currently amended) The method of claim 28, wherein the organic mixing solvent ~~is~~ further includes an organic solvent selected from the group consisting of dimethylformamide, ~~isopropyl alcohol~~ and acetonitrile.

31. (original) The method of claim 28, wherein the binder further comprises at least oxide polymer selected from the group consisting of polyethylene oxide and polypropylene oxide.

32. (currently amended) A method of preparing a positive electrode for a lithium-sulfur battery comprising:

dissolving a binder comprising polyvinyl pyrrolidone in an organic mixing solvent comprising isopropyl alcohol wherein the organic mixing solvent is non-aqueous and has a solubility of sulfur equal to or less than 50 mM to obtain a first mixture and wherein an amount of the binder is at least five percent by weight with respect to the positive active material composition;

dispersing a conductive agent into the first mixture to obtain a dispersion solution;

homogeneously dispersing a positive active material comprising a sulfur-based compound in the dispersion solution, to prepare a positive electrode composition; and

coating the positive electrode composition to a current collector and drying the coated current collector.

33. (cancelled)

34. (currently amended) The method of claim 32, wherein the organic mixing solvent ~~is~~ further comprises an organic solvent selected from the group consisting of dimethylformamide~~, isopropyl alcohol~~ and acetonitrile.

35. (currently amended) The method of claim 32, wherein the binder further comprises at least an oxide polymer selected from the group consisting of polyethylene oxide and polypropylene oxide.